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10/591,296

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EXAMINER

RIVERA, JOSHEL

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

06/24/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction27049@oliff.com  
jarmstrong@oliff.com

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/591,296 | <b>Applicant(s)</b><br>ENOMOTO ET AL. |  |
|                              | <b>Examiner</b><br>JOSHEL RIVERA     | <b>Art Unit</b><br>1791               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4-9 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-9 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                    |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                               | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/25/2010</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 25, 2010 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. On page 19 of the Specification in lines 7 - 20, Applicant states that the angle of view of the laser oscillation unit be the same as the image pick

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up unit. This was presented in the original claim 5 where the Examiner rejected the claim because there was no indication of point of reference. Applicant amended the claim stating that the angle of view is with respect to the end surface of the honeycomb structure, when viewing the image reflected on the mirror. There is no support for this limitation.

4. The amendment is not clear as to who or what is viewing the image reflected on the mirror. This can mean either the operator or the camera or the laser, hence it is not clear what point of view Applicant is trying to indicate by adding this limitation.

5. Second, as shown in Figure 1 (b), the image pick up unit (item 5) has an angle of view *with respect to the end surface of the honeycomb* (item 6) equal to  $90^\circ$  while the laser oscillation unit (item 2) has an *angle of view with respect to the end surface of the honeycomb* (item 6) equal to  $0^\circ$ . The only way for the image pick up unit to view the end surface is by viewing the image reflected on the mirror (item 4), where the angle of view of the image pick-up unit *with respect to the mirror* is equal to  $0^\circ$ . The camera still has an angle of view different to the angle of view of the laser with respect to the end surface of the honeycomb structure. It is suggested that Applicant should amend the claim in a way that describes what is present in the Specification, that the camera is viewing the same area of the honeycomb structure as viewed from the point of view of the laser.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 5 was amended to state that the angle of view of the laser oscillator is the same as the angle of view of the image pick-up unit with respect to the end surface of the honeycomb structure, when viewing the image reflected on the mirror. The amendment is not clear as to who or what is viewing the image reflected on the mirror. The limitation as written can be interpreted as either the operator or the camera or the laser is viewing the reflection, hence it is not clear what point of view Applicant is trying to indicate by adding this limitation. It is suggested that Applicant should amend the claim in a way that describes what is present in the Specification, that the camera is viewing the same area of the honeycomb structure as viewed from the point of view of the laser.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 4, 5, 7 – 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al. (US Patent 6,811,737) in view of Onodera et al. (Japanese Patent 09-085481) and Bonzo (US Patent 4,557,773).

12. With regards to claim 1, Fukuta teaches a device where the image of a honeycomb body is picked up by a camera and the image is processed by an image processing method to detect the position of all the cells at the end surface, then a sheet is adhered to the end surface of the of the honeycomb, which intrinsically this needs to be done with a tape bonder, and finally a laser is used to pierce the sheet (column 3 lines 37 – 56). Since the laser of Fukuta is used to pierce the tape that covers the honeycomb structure in a pattern (column 3 lines 48 – 56), the laser is capable of cutting the tape in the outer periphery.

13. It would have been obvious to one of ordinary skills in the art at the time of the invention to use the laser to cut the tape along the outer periphery of the end surface.

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The rationale to do so would have been that since the laser is capable of cutting the tape one would program a pattern that would include both piercing holes in the tape and cut the tape at the outer periphery. This would save money on equipment since there wouldn't be a need to have a laser beam station plus a cutting station.

14. Fukuta fails to explicitly disclose a moving type or tilt type mirror capable of reflecting the end surface of the honeycomb structural body onto the same axis as the laser oscillation.

15. Onodera teaches of a laser machining head that contains an image pick up unit (camera) and a movable mirror that reflects the image of the surface of the work to the camera and is fixed at the optical axis of the laser beam (Abstract).

16. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Onodera's laser head in an apparatus that performs Fukuta's method. The rationale to do so would have been that, as stated by Onodera, this configuration reduces space and the energy loss by the laser (Abstract).

17. Fukuta and Onodera fail to explicitly disclose using a moving means capable of gripping and moving the honeycomb structural body.

18. Bonzo teaches positioning and lifting the honeycomb structure to the film bonding apparatus (column 15 lines 49 – 57). Intrinsicly the structure needs to be gripped while being moved or it will fall from the film bonding apparatus or the bonding tape would be laid on the incorrect surface.

19. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Bonzo's moving means in Fukuta and Onodera's apparatus. The

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rationale to do so would have been that it would be necessary to have a device that could transport various honeycomb structures to the tape bonding station in order to increase production. Additionally Bonzo states that the structure is moved into position so as not to interfere with the operation of the apparatus (column 15 lines 53 – 55). Gripping would be necessary in order to accurately place the tape on the end surface of the honeycomb structure and not to let the structure fall while being moved.

20. With regards to claim 4, the teachings of Fukuta, Onodera and Bonzo are presented above. Bonzo states that the structure is moved into position so as not to interfere with the operation of the apparatus (column 15 lines 53 – 55), suggesting that the process is done continuously. Additionally claim 4 contains an optional statement which describes that the invention is able to do the bonding process continuously, hence is not a requirement for the apparatus to do this. Specifically, term "can be" is viewed as ability and not that the action is actually performed.

21. With regards to claim 5, the teachings of Fukuta, Onodera and Bonzo are presented above. Additionally it can be seen in Figure 6 of Onodera that the angle of view of the laser (item 1) and the image pick-up unit (item 33) is the same with respect to the end surface of the work (item W).

22. With regards to claim 7, the teachings of Fukuta, Onodera and Bonzo are presented above. Additionally, Onodera explicitly discloses that the laser used is a YAG laser (paragraph 16).

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23. With regards to claim 8, the teachings of Fukuta, Onodera and Bonzo era are presented above. Additionally Onodera explicitly discloses that the camera is a CCD camera (Abstract).

24. With regards to claim 9, the teachings of Fukuta, Onodera and Bonzo are presented above. Fukuta and Onodera fail to explicitly disclose that the tape bonder bonds a tape wound in a roll state onto the end surface of the honeycomb structure.

25. Bonzo teaches the use of an apparatus for applying a length of tape, film or web to the end face of a honeycomb structure (column 15 lines 33 – 36), where the tape is in a wound state (Figure 14 item 112).

26. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Bonzo's tape bonding means to bond a wound up tape in Fukuta and Onodera's apparatus. The rationale to do so would have been that by using a web of tape production would increase since the bonding process would be continuous.

27. With regards to claim 11, the teachings of Fukuta, Onodera and Bonzo are presented above. Fukuta explicitly states that the laser is used to pierce the tape in order to create holes at predetermined positions (column 3 lines 48 – 56).

28. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al. (US Patent 6,811,737) in view of Onodera et al. (Japanese Patent 09-085481) and Bonzo (US Patent 4,557,773) as applied to claims 1, 4, 5, 7 – 9 and 11 above, and further in view of Kanehara et al. (Japanese Patent 01-233083).

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29. With regards to claim 6, the teachings of Fukuta, Onodera and Bonzo are presented above. Fukuta, Onodera and Bonzo fail to explicitly disclose using a correction means for correcting the distortion in the laser and segmenting the image obtained from the image pick up unit.

30. Kanehara teaches using a position correcting device for laser beam machining (Title of the patent) that receives an image from the work surface and displays it segmented in a monitor (Abstract, Figure 1 item 15 being the monitor and it can be seen that the image in the monitor is being segmented by the crossing lines 19).

31. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Kanehara's correction device in Fukuta and Onodera's apparatus. The rationale to do so would have been that, as stated by Kanehara, this device is capable of correcting with high accuracy the dislocation between the laser and the machining line (Abstract).

### ***Response to Arguments***

32. Applicant's arguments filed May 25, 2010 have been fully considered but they are not persuasive.

33. With regards to claim 1, in response to applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge

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which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Fukuta explicitly discloses that the laser pierces the laminate on the honeycomb structure based on cell positions calculated and detected by the image processing method (column 3 lines 48 - 56) which would indicate to one of ordinary skills in the art that the machine is capable of programming and one can include in the calculations and programming to cut the periphery of the honeycomb structure.

34. Regarding Applicant's arguments that the laser oscillator being capable of cutting a film being irrelevant to the present invention, being that the claims are directed to an apparatus and not to a method, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In *re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

"[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original). Fukuta shows a laser that is capable of cutting the peripheries of the honeycomb structure, which, for apparatus claims, is sufficient since

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apparatus claims are distinguished by structure not function. The same argument applies for Onodera.

35. Onodera explicitly teaches a laser head with a movable mirror that reflects the image of the surface of the work to the camera and is fixed at the optical axis of the laser beam (Abstract). If the mirror reflects the image of the surface of the work then is capable of reflecting the light reflected from the surface of the tape bonded to the end surface of the honeycomb. The condensing lens in Onodera is part of the laser that condenses the light from the laser head (Abstract) and since the moving mirror is fixed axially with the condensing lens (Abstract) it would indicate that the mirror is on the same axis as the laser.

36. Additionally, the claim does not state that the mirror is provided in a position capable of receiving a laser beam, as Applicant suggest. the claim clearly says “a moving type or tilt type mirror located in a position capable of reflecting a light reflected from the tape bonded to the end surface of the honeycomb structural body on the same axis as the laser oscillated from the laser oscillator and capable of being moved from the position on the same axis when the laser oscillates”.

37. Regarding Applicant's argument that Onodera's CCD camera is not provided on the same axis as the optical axis of the condenser, first, Figure 6 of Onodera shows an embodiment where the camera (item 33) in the same axis as the condenser (item 9). Second, Applicant's invention does not have the camera in the same axis as the optical axis of the laser oscillator. The claim does not even say that the camera is in the same axis as the laser, the claim states that it is the mirror that is positioned at the same axis

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of the laser. Onodera in Figure 2 clearly shows that the mirror (item 59) to be positioned in the same axis as the laser generating end (item 9). This is one of the motivation that the rejection under 35 USC 112 first paragraph of claim 5 is still maintained, since, as shown in Applicant's Figure 1b, the image pick-up device (item 5) is positioned perpendicular to the optical axis of the laser oscillator unit (item 2).

38. Regarding Applicant's argument that Applicant's invention provides an improvement of continuous processing over the combination of Fukuta with Onodera, first the Examiner wishes to point out that the current rejection is Fukuta in view of Onodera and Bonzo where Bonzo does show a continuous process. Second, the only claim that teaches a continuous process, claim 4, only states that the processing "can be" continuous, indicating that it is not require for the process to be continuous. Finally, it has been determined that making a process continuous has no patentable weight as per *In re Dilnot*, 319 F.2d 188, 138 USPQ 248 (CCPA 1963) (Claim directed to a method of producing a cementitious structure wherein a stable air foam is introduced into a slurry of cementitious material differed from the prior art only in requiring the addition of the foam to be continuous. The court held the claimed continuous operation would have been obvious in light of the batch process of the prior art.)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHEL RIVERA whose telephone number is (571)

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270-7655. The examiner can normally be reached on Monday - Thursday 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna Wyrozebski can be reached on (571) 272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. R./  
Examiner, Art Unit 1791

/KAT WYROZEBSKI/  
Supervisory Patent Examiner, Art Unit 1791